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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|--------------------------------|------------------------|
| 10/576,398 | 11/30/2006 | Jean-Pierre Germain | Serie 6331 | 3614 |
| 40582 | 7590 | 01/30/2008 | | |
| AIR LIQUIDE Intellectual Property 2700 POST OAK BOULEVARD, SUITE 1800 HOUSTON, TX 77056 | | | EXAMINER ANDERSON, DENISE R | |
| | | | ART UNIT 1797 | PAPER NUMBER |
| | | | MAIL DATE 01/30/2008 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|------------------------|----------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/576,398 | GERMAIN, JEAN-PIERRE | |
| | Examiner | Art Unit | |
| | Denise R. Anderson | 1797 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>12 January 2007</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 18 provides for the use of the apparatus recited in claim 10, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

3. Claim 18 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gary et al. (US Patent No. 5,913,893, Jun. 22, 1999), in view of Lozhkin et al. (SU 403926A, the original patent with the figure and the Derwent Abstract, Apr. 15, 1974).

7. Independent claim 10 and dependent claims 11-14 and 16-17 recite an apparatus where a filter is installed on a pipe as a branch at a 10° to 30° angle (claims 13 and 14). Upstream of the filter, there is a prefiltration member with pore size less than $100\ \mu\text{m}$ (claim 16). Fluid enters the filter in the center of the filter (claim 12). The filter has a porous medium with pore size less than $20\ \mu\text{m}$ (claim 17). The fluid exits the filter on the downstream side of the filter, back into the pipe. The filter's seals are under compression (claim 11). Because it is a cryogenic liquid that is being filtered, the pipe and the filter have a double-walled vacuum thermal insulation jacket (claim 11).

8. Claim 15 depends on independent claim 10. Claim 15 recites an apparatus where a filter is installed vertically on a pipe. The entrance to the filter is at the bottom through the center of the filter. No pore size limitations are placed on the filter's porous medium. The exit to the filter is located near the top of the filter's porous medium and at a right angle to the filter's porous medium. The filter's seals are under compression.

Because it is a cryogenic liquid that is being filtered, the pipe and the filter have a double-walled vacuum thermal insulation jacket.

9. Gary et al. discloses an "apparatus for the purification of a cryogenic fluid in liquid" in Figures 1 and 2. Gary et al., Abstract, lines 1-2. In Figure 2, the Gary et al. filter is shown inline and has three filters in series (first filter 25, purification cartridge 24, second filter 25'). Gary et al. further teaches that only the two filters 25 and 25' need be present to obtain "an ultra pure cryogenic fluid responding to the . . . requirements in the electrical field." Gary et al., Figure 2 and Column 6, lines 48-53. These two filters can have pore sizes of "less than 60 μm " (claim 16), "preferably less than 20 μm " (claim 17), and possibly "less than 2 μm ." Gary et al., Column 9, lines 49-52. In Figure 1 and at Column 5, lines 57-59, Gary et al. discloses a fluid entrance into the filter on the bottom, center of the filter (claim 12). The fluid exits on the downstream side of the filter, back into the pipe. Gary et al., Figure 1 and Column 5, lines 59-67. At Column 5, lines 45-48, Gary et al. discloses that the filter's seals are under compression (claim 11). Finally, Gary et al. teaches that "to ensure optimum purification," the device must be "correctly insulated" and that "vacuum insulation is preferred" (claim 11).

10. With regards to claims 10, 11-14 and 16-17, Gary et al. discloses the claimed invention except that the filter be placed in a branch and that the branch be at a 10° to 30° angle to the pipe (claims 13-14). Lozhkin et al. teaches this in the Figure which shows a cryogenic filter installed in a branch that is at a 10° to 30° angle relative to the pipe. Lozhkin et al., Figure; Derwent Abstract, Title section and Basic-Abstract section. It would have been obvious to one having ordinary skill in the art at the time the

invention was made to have placed the Gary et al. filter in a branch and that the branch be a 10° to 30° angle to the pipe as taught by Lozhkin et al., since Lozhkin et al. states in the Derwent Basic-Abstract section, lines 2-5 that such a modification would "reduce cold losses by reducing the metallic bulk of the body" and would "reduce resistance to flow".

11. With regards to claim 15, Gary et al. discloses the claimed invention except that the exit from the filter is located at the top of the filter and not at a right angle to the filter's porous medium. In the Gary et al. installation, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to have relocated the filter's exit from the top to the side near the top, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

12. Claim 18 recites using the claim 10 apparatus but does not further limit the structure. As with claim 10, then, claim 18 is rejected over Gary et al., in view of Lozhkin et al..

13. To summarize then, Gary et al., in view of Lozhkin et al., discloses or suggests all limitations recited in claims 10-18.

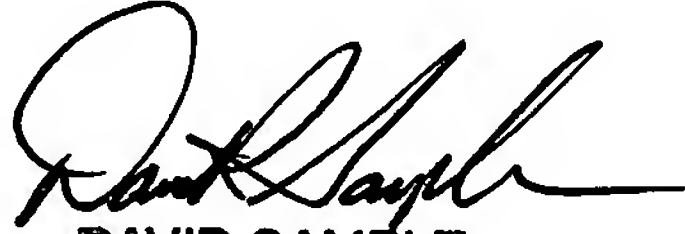
Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise R. Anderson whose telephone number is 571-270-3166. The examiner can normally be reached on Monday through Thursday, from 8:00 am to 6:00 pm.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter D. Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DRA


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SUPERVISORY PATENT EXAMINER